

## CLAIMS

1. A method for providing link adaptation in a wireless communication system (1), comprising the steps of:
- 5        obtaining in a current link quality measure of a communication link;
- characterized by:**
- determining a SIR (Signal-to-Interference Ratio) value of the communication link;
- 10        correcting the current link quality measure based on the determined value.
2. The method according to claim 1, wherein the SIR value is determined in a receiving unit (18, 19) based on a
- 15        SIR value induced by unmatched physical layer transmission parameter settings of a transmitting unit (14, 15) and a receiving unit (18, 19).
3. The method according to claim 1 or 2, further
- 20        comprising:
- transmitting a link quality report being based on the corrected link quality measure.
4. The method according to any of the claims 1-3,
- 25        wherein obtaining the link quality measure comprises:
- estimating for a reporting interval the SIR of a signal received over the communication link, said SIR is used to form the current link quality measure.
- 30        5. The method according to any of the previous claims, wherein the discrepancy between desired transmission parameter settings and used transmission parameter settings is utilized to determine the SIR value.
- 35        6. The method according to any of the previous claims, wherein a transmission parameter indicator for

indicating the transmission parameters used for a subsequent transmission of data over a physical channel in a transmission interval is utilized for determining the SIR value of the transmission interval.

5

7. The method according to claim 6, wherein the transmission parameter indicator is used as an index to address a look-up table for retrieving a corresponding SIR value.

10

8. The method according to claim 7, wherein a discrepancy value is determined for the reporting interval, which is based on the difference between the SIR value retrieved from the look-up table and a previous SIR value that was used to form the previous link quality report, and the discrepancy value is added to the current link quality measure to form the corrected link quality measure.

15

9. The method according to claim 8, wherein the discrepancy value is a filtered discrepancy value, which is based on a SIR value of each transmission interval of a reporting interval and a previous SIR value that was used to form the previous link quality report.

20

10. The method according to claim 7, wherein a discrepancy value is determined for the reporting interval, which is based on a SIR estimation of a signal of a transmission interval transmitted over a pilot channel corrected for any power gain factor and the SIR value retrieved from the look-up table, and the discrepancy value is added to the current link quality measure to form the corrected link quality measure.

25

30

11. The method according to claim 10, wherein the power gain factor is estimated by determining the

35

difference between the estimated SIR value of the pilot channel, and an estimated SIR value of a signal transmitted over the data channel.

5           12. The method according to any of the claims 8-11, wherein the discrepancy value is a filtered discrepancy value, which is based on the discrepancy values determined for each transmission interval over a reporting interval.

10           13. The method according to claim 12, wherein the filtered discrepancy value is a mean value of the discrepancy values determined for each transmission interval over a reporting interval.

15           14. The method according to any of the previous claims, further comprising:

              mapping the corrected current link quality measure against transmission parameter indicators stored in a look-up table, wherein the corrected link quality measure is  
20       used to address said look-up table;

              retrieving a transmission parameter indicator that matches the corrected link quality measure; and

              incorporating the retrieved transmission parameter indicator into the link quality report.

25           15. The method according to any of the previous claims, comprising:

              mapping the corrected link quality measure together with a user data size value against transmission parameter  
30       indicators stored in a look-up table, wherein the corrected link quality measure and the user data size value are utilized to address the look-up table;

              retrieving the transmission parameter indicator, which matches the corrected link quality measure and the  
35       user data size value; and

incorporating the retrieved transmission parameter indicator and the user data size value into the link quality report.

5           16. The method according to any of the claims 1-13, further comprising:

          incorporating the corrected link quality measure being a SIR value into the link quality report.

10           17. An electronic communication apparatus (16, 17) for supporting link adaptation of a communication link, comprising:

          a receiver (30);

          a transmitter unit (34);

15           a memory (33);

          a measurement unit (31) for determining a current link quality measure of a communication link; and

          a controller (35);

          characterized by

20           a correction unit (32) adapted to determine a SIR value of the communication link, and to correct the current link quality measure based on the determined value.

25           18. The apparatus according to claim 17, wherein the apparatus is adapted to:

          estimate for a reporting interval the SIR of a signal received over the communication link; and

          the correction unit (32) is adapted to use said estimated SIR to form the current link quality measure.

30

          19. The apparatus according to any of the claims 17-18, wherein the apparatus is adapted to:

          determine the discrepancy between desired transmission parameter settings and used transmission parameter settings; and

35

use said discrepancy to determine the SIR value.

20. The apparatus according to any of the claims 17-19, wherein the apparatus is adapted to:

5 obtain a transmission parameter indicator, which indicates the transmission parameters used for a subsequent transmission of data in a transmission interval over a physical channel; and

10 determining a SIR value of the transmission interval based on the obtained transmission parameter indicator.

21. The apparatus according to claim 20, wherein the apparatus is adapted to:

15 use a transmission parameter indicator received over the communication link as an index to address a look-up table stored in the memory (33) for retrieving a corresponding SIR value.

22. The apparatus according to claim 21, wherein the apparatus is adapted to:

25 determine a discrepancy value for the reporting interval, which is based on the difference between the SIR value retrieved from the look-up table and a previous SIR value that was used to form the previous link quality report; and

add the discrepancy value to the current link quality measure to form the corrected link quality measure.

23. The apparatus according to claim 22, wherein the apparatus is further adapted to:

30 filter the discrepancy value based on a SIR value of each transmission interval of a reporting interval and a previous SIR value that was used to form the previous link quality report.

24. The apparatus according to claim 21, the apparatus is adapted to:

5       determine a discrepancy value for the reporting interval, which is based on a SIR estimation of a transmission interval of a signal transmitted over a pilot channel corrected for any power gain factor and the SIR value retrieved from the look-up table; and  
10       add the discrepancy value to the current link quality measure to form the corrected link quality measure.

25. The apparatus according to claim 24, wherein the apparatus is adapted to:

15       estimate the power gain factor by determining the difference between the estimated SIR value of the pilot channel, and an SIR value of a signal transmitted over the data channel.

26. The apparatus according to any of the claims 24-25, wherein the apparatus is adapted to;

20       filter the discrepancy value based on the discrepancy values determined for each transmission interval of a reporting interval.

27. The apparatus according to any of the claims 17-26, wherein the apparatus is further adapted to:

25       map the corrected current link quality measure against transmission parameter indicators stored in a look-up table of the memory (33), wherein the corrected link quality measure is used to address the look-up table;  
30       retrieve a transmission parameter indicator that matches the corrected link quality measure; and  
      incorporate the retrieved indicator into the link quality report.

28. The apparatus according to any of the claims 17-26, wherein the apparatus is further adapted to:

map the corrected link quality measure together with a user data size value against transmission parameter indicators stored in a look-up table, wherein the corrected link quality measure and the user data size value are utilized to address the look-up table;

retrieve the transmission parameter indicator, which matches the corrected link quality measure and the user data size value; and

incorporate the retrieved transmission parameter indicator and the user data size value into the link quality report.

29. The apparatus according to any of the claims 17-26, wherein the apparatus is further adapted to:

incorporate the corrected link quality measure being a SIR value into the link quality report.

30. The apparatus according to any of the claims 17-29 wherein the apparatus is a mobile radio terminal, a pager or a communicator.

31. The apparatus according to any of the claims 17-29, wherein the apparatus is a mobile telephone (16, 17).

32. A computer program product directly loadable into the memory of a mobile terminal (16, 17) having digital computer capabilities, comprising software code portions for performing the steps of claim 1 when said product is run by said mobile terminal (16, 17).